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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,489	12/22/2003	Daniel Rosenfeld	GEMS8081.206	7767
7590 11/02/2005 Ziolkowski Patent Solutions Group, LLC 14135 North Cedarburg Road Mequon, WI 53097			EXAMINER MISTRY, O NEAL RAJAN	
			ART UNIT 2625	PAPER NUMBER

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/743,489

Applicant(s)

ROSENFELD, DANIEL

Examiner

O'Neal R. Mistry

Art Unit

2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10/20/5.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 47-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 47-56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 April 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

1. This application has been examined.
2. Claims 47-56 are presented for examination.

***Drawings***

3. The Examiner contends that the drawings submitted on 12/22/2003 are acceptable for the examination proceedings.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 53 recites the limitation "said data" in line 4. There is insufficient antecedent basis for this limitation in the claim. The claims fail to give proper antecedence to the "first spatial distribution of data points" or "second spatial distribution of data points" recited previously in claim 53.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 47-49, 51-53 are rejected under 35 U.S.C. 102(e) as being anticipated by Lui (USPN 6,043,652).

Art Unit: 2625

In regards to claim 47, Lui discloses a method of re-sampling comprising: providing data in a first spatial distribution of data points (Figure 1B item 120, col. 7 lines 20-25, Note the prior art teaches an P-matrix generator (i.e. first spatial distribution of data points) generates a matrix P); providing a second spatial distribution of data points (col. 7 lines 30-35, Figure 1B item 124, Note the prior art teaches a X-matrix generator (i.e. second spatial distribution of data points) generates a diagonal matrix X, by multiplying  $P \times x$ ); and re-sampling data from said first spatial distribution onto said second spatial distribution, without generating artifacts in the data, which artifacts could be corrected by pixel-by-pixel multiplying an image reconstructed from said re-sampled data, by a pre-determined post-compensation matrix, wherein said re-sampling is performed by multiplying said data by a single matrix (col. 4 lines 25-30 & col. 9 lines 30-40, Note the examiner interprets the prior art interpolates (i.e. resample data) two data sets, and does create any error (i.e. without generating artifacts). In addition, in Figure 1B, The examiner interprets that the system takes the two data set of P & b and then multiplies to create X matrix)

In regards to claim 48, Lui discloses the single matrix is a sparse matrix in which each row comprises at least 20% zero elements (col. 9 lines 30-35, If the matrix is diagonal matrix and then zero are padded on, that means that the matrix has more that 50% of zeros.).

Art Unit: 2625

In regards to claim 49, Lui discloses said single matrix is a sparse matrix in which each row comprises at least 50% zero elements (col. 9 lines 30-35, If the matrix is diagonal matrix and then zero are padded on, that means that the matrix has more that 50% of zeros.).

In regards to claim 50, Lui discloses said single matrix is a sparse matrix in which each row comprises at least 80% zero elements(col. 9 lines 30-35, If the matrix is diagonal matrix and then zero are padded on. If the matrix is a [10,10], that means 1 out of the ten is a number other then zero, which concludes that 90% are zero and the remaining is not zero).

In regards to claim 51, Lui discloses the second spatial distribution comprises a uniform spatial distribution (Figure 1B item 124, Note the second spatial distribution is uniform because it is the result of the P matrix being multiplied by the pad array.)

In regards to claim 52, Lui discloses the first spatial distribution comprises a non-uniform spatial distribution (Figure 1B item 120, Note the examiner interprets that the first spatial distribution is not uniform because the system must be multiple with a pad array.).

In regards to claim 53, Lui discloses a method of re-sampling comprising: providing data in a first spatial distribution of data points (Figure 1B item 120, col. 7 lines 20-25, Note

Art Unit: 2625

the prior art teaches an A-matrix generator (i.e. first spatial distribution of data points) generates a matrix A); providing a second spatial distribution of data points (col. 7 lines 30-35, Figure 1B item 124, Note the prior art teaches a D-matrix generator (i.e. second spatial distribution of data points) generates a diagonal matrix); pre-multiplying said data (Figure 1B item 122) by a diagonal density pre-compensation matrix (col. 7 lines 30-35) which includes at least one element having a negative value (col. 10 lines 40-43, Note the examiner interprets that if the matrix is being Fourier transformed, that means the system uses cosine and sine equitation which will result into negative numbers); and re-sampling said data from said first spatial distribution onto said second spatial distribution (col. 9 lines 30-40 & col. 8 lines 20-50, Note the examiner interprets that the data is being re-sampled because it is being interpolated, and in addition matrix X is changing the data points after the multiplication process of array  $b * \text{matrix } P$ ).

In regards to claim 54, Lui discloses the diagonal pre-compensation matrix comprises both positive and negative elements (col. 10 lines 40-43, Note the examiner interprets that if the matrix is being Fourier transformed, that means the system uses cosine and sine equitation which will result into negative numbers).

In regards to claim 55, Lui discloses reconstructing an image from said re-sampled data by applying an FT (Fourier Transform) to said data (col. 10 lines 40-43, Note the examiner interprets that if the matrix is being Fourier transformed, that means the system uses cosine and sine equitation which will result into negative numbers).

In regards to claim 56, Lui discloses pixel-by-pixel multiplying the reconstructed image by a pre-determined post-compensation matrix (col. 4 lines 20-30, col. 9 lines 52-67, Note the examiner interprets that pixel is a data point on the matrix).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to O'Neal R. Mistry whose telephone number is (703) 305-4675. The examiner can normally be reached on 9am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M. Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O'Neal Mistry

Application/Control Number: 10/743,489

Page 7

Art Unit: 2625

Assistant Patent Examiner

Art Unit 2625

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A handwritten signature in black ink, appearing to read "K. Patel", written in a cursive style.

**KANJIBHAI PATEL  
PRIMARY EXAMINER**